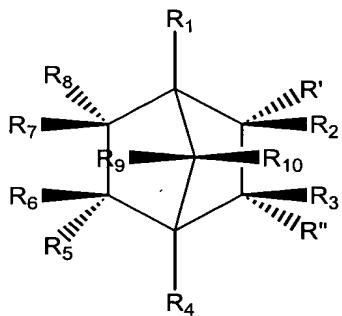


**CLAIMS**

That which is claimed is:

1. A thermoplastic comprising at least one small particle size nucleator compound conforming conforming to the structure of Formula (I)

(I)

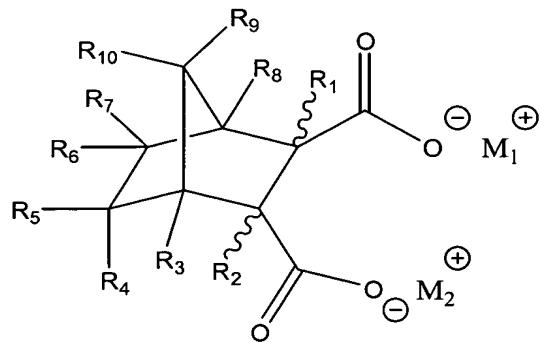


wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, and R<sub>10</sub> are individually selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>9</sub> alkyl, hydroxy, C<sub>1</sub>-C<sub>9</sub> alkoxy, C<sub>1</sub>-C<sub>9</sub> alkyleneoxy, amine, and C<sub>1</sub>-C<sub>9</sub> alkylamine, halogen, phenyl, alkylphenyl, and geminal or vicinal carbocyclic having up to nine carbon atoms, R' and R'' are the same or different and are individually selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>30</sub> alkyl, hydroxy, amine, polyamine, polyoxyamine, C<sub>1</sub>-C<sub>30</sub> alkylamine, phenyl, halogen, C<sub>1</sub>-C<sub>30</sub> alkoxy, C<sub>1</sub>-C<sub>30</sub> polyoxyalkyl, C(O)-NR<sub>11</sub>C(O)O-R'', and C(O)O-R'', wherein R<sub>11</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>30</sub> alkyl, hydrogen, C<sub>1</sub>-C<sub>30</sub> alkoxy, and C<sub>1</sub>-C<sub>30</sub> polyoxyalkyl, and wherein R'' is selected from the group consisting of hydrogen, a metal ion (such as, without limitation, Na<sup>+</sup>, K<sup>+</sup>, Li<sup>+</sup>, Ag<sup>+</sup> and any other monovalent ions), an organic cation (such as ammonium as one non-limiting example), polyoxy-C<sub>2</sub>-C<sub>18</sub>-alkylene, C<sub>1</sub>-C<sub>30</sub> alkyl, C<sub>1</sub>-C<sub>30</sub> alkylene, C<sub>1</sub>-

$C_{30}$  alkyleneoxy, a steroid moiety (for example, cholesterol), phenyl, polyphenyl,  $C_1$ - $C_{30}$  alkylhalide, and  $C_1$ - $C_{30}$  alkylamine; wherein at least one of  $R'$  and  $R''$  is either  $C(O)-NR_{11}C(O)O-R'''$  or  $C(O)O-R'''$ , wherein if both  $R'$  and  $R''$  are  $C(O)O-R'''$  then  $R'''$  both  $R'$  and  $R''$  may be combined into a single bivalent metal ion (such as  $Ca^{2+}$ , as one non-limiting example) or a single trivalent metal overbase (such as  $Al-OH$ , for one non-limiting example), and at least one anticaking agent.

2. The formulation of Claim 1 wherein said small particle size nucleating compound conforms to the structure of Formula (II)

(II)



wherein  $M_1$  and  $M_2$  are the same or different and are independently selected from the group consisting of metal or organic cations or the two metal ions are unified into a single metal ion (bivalent, for instance, such as calcium, for example), and  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ ,  $R_9$ , and  $R_{10}$  are individually selected from the group consisting of hydrogen,  $C_1$ - $C_9$  alkyl, hydroxy,  $C_1$ - $C_9$  alkoxy,  $C_1$ - $C_9$  alkyleneoxy, amine, and  $C_1$ - $C_9$  alkylamine, halogen, phenyl, alkylphenyl, and geminal or vicinal carbocyclic having up to 9 carbon

atoms. Preferably, the metal cations are selected from the group consisting of calcium, strontium, barium, magnesium, aluminum, silver, sodium, lithium, rubidium, potassium, and the like.

3. The formulation of Claim 1 wherein said metal or organic cation is a metal cation selected from the group consisting of Group I and Group II metal ions.

4. The formulation of Claim 3 wherein said metal cation is selected from the group consisting of sodium, potassium, calcium, lithium, rubidium, barium, magnesium, and strontium, silver, zinc, aluminum.

5. The formulation of Claim 4 wherein said metal cation is sodium.

6. The thermoplastic of Claim 1 wherein said anticaking agent is selected from the group consisting of silica gel, talc, dihydrotalcite, metal carboxylic acids, and any mixtures thereof.

7. The thermoplastic of Claim 6 wherein said anticaking agent is a silica gel.

8. The thermoplastic article of Claim 1 wherein said thermoplastic comprises a polyolefin.

9. The thermoplastic article of Claim 2 wherein said thermoplastic comprises a polyolefin.
10. The thermoplastic article of Claim 6 wherein said thermoplastic comprises a polyolefin.
11. The thermoplastic article of Claim 8 wherein said polyolefin is a polypropylene.
12. The thermoplastic article of Claim 9 wherein said polyolefin is a polypropylene.
13. The thermoplastic article of Claim 10 wherein said polyolefin is a polypropylene.